

APPARATUS AND METHOD FOR BUS POWER MEASUREMENT IN A DIGITAL SIGNAL PROCESSOR

5 Abstract of the Invention

In order to measure the power consumed by a bus in a digital signal processor, each bus conductor has a lead electrically coupled thereto. The lead is coupled to apparatus that provides a signal each time the logic state of the bus is changed. The total number of logic signal changes for a given period of time is determined. Because power is consumed by the bus only during logic state transitions, the total number of logic state transitions can be multiplied by the power consumed by the bus during each transition to provide the total power consumed during a predetermined period of time. The power consumed by the bus during each logic state transition can be determined by simulation or other techniques. The power consumed by the operation of the bus can be further divided into power consumed by the internal (on-chip) bus and the external (off-chip) bus.